

### **REMARKS/ARGUMENTS**

Claims 1-3, 5-10, 14, 16-18, 22, and 23 are currently pending in the present application. Claims 11-13, 15, and 19 were previously cancelled, claims 4, 20, 21, and 24 are now cancelled. Claims 1, 6, and 16 are amended.

In particular, claim 1 has been amended to include the subject matter of claim 4 and to recite water-in-oil emulsifiers.

Claim 6 has been amended for minor editorial purposes, i.e., to recite “prepared by” instead of “preparable by,” as suggested by the Examiner.

Claim 16 has been amended to depend from claim 1.

Support for the amendments to claims 1, 6, and 16 can be found in the claims and in the specification at page 11, lines 1-9, as originally filed.

No new matter has been added. Reconsideration of the application is kindly requested in view of the remarks below.

### **OBJECTION TO THE CLAIMS**

Claim 6 has been amended to recite “prepared by” in accordance with the Office’s suggestion. Accordingly, the objection to claims 6-10, 14, and 17-18 is rendered moot. Withdrawal of the rejection is requested.

### **REJECTION UNDER 35 U.S.C. §§ 102(b)/103(a)**

The rejection of claims 6, 8, and 17-18 under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as being obvious over EP 0196162 to Chaudhry is respectfully traversed for reasons of record and the reasons discussed below, and obviated by amendment.

The rejection of claims 1-5, 7, 9-10, 14, 16, and 20-24 under 35 U.S.C. § 103(a) as obvious over Chaudary et al. (EP 0196162) in view of Berghofer et al. (US 6,211,400); and the rejection of claims 1-5, 7, 9-10, 14, 16, and 20-24 under 35 U.S.C. § 103(a) as obvious over Chaudary et al. (EP 0196162) in view of Brown et al. (US 2002/0068791) are also respectfully traversed for reasons of record and the reasons discussed below, and obviated by amendment.

Chaudhry et al. describes a method of thickening non-aqueous liquids, in which a

thickener comprising a water-in-oil-emulsion of a water-soluble polymer, which water-soluble polymer is present in the water phase of the water-in-oil-emulsion, is added to a liquid which is thickened by this addition. The thickening agent can be obtained by inverse emulsion polymerization. See page 2, second paragraph. According to page 3, lines 5 to 10 of Chaudhry et al., water-in-oil-emulsifiers may be present in the monomer emulsion, preferably these emulsifiers have HLB-values below 9. In addition, on page 3, lines 16 to 23 of Chaudhry et al. it is mentioned that the inverse emulsion prepared by the process can be used directly as a thickener, but it is sometimes advantageous to include an oil-in-water emulsifier or a mixture of oil-in-water-emulsifiers in the inverse emulsion latex. Alternatively, such an oil-in-water-emulsifier may be added to the medium to be thickened either before, simultaneously with, or after the addition of the inverse emulsion latex.

In contrast to the disclosure of Chaudhry et al., in amended claim 1 of the present application a process for the preparation of water-soluble water-swellaable homopolymers or copolymers is claimed comprising:

- a) dissolution of at least one water-in-oil emulsifier selected from the group consisting of alkylbenzenesulfonic acids, sulfonated fatty acids, sulfosuccinates, fatty alcohol sulfates, alkylphenolsulfates, fatty alcohol ether sulfates, alkylphenyl ethoxylates, primary alcohol ethoxylates, fatty acid ethoxylates, alcohol amide ethoxylates, fatty amine ethoxylates, ethylene oxide/propylene oxide block copolymers, alkyl polyglycosides, quaternized amine alkoxyates, alkylbetaines, alkylamidobetaines and sulfobetaines, or at least one protective colloid in a hydrophobic liquid inert for the polymerization as a result of which an oil phase is formed;
- b) dissolution or dispersion of the monomers and optionally the further comonomers, an oil-in-water emulsifier and the redox initiator pair in water, as result of which an aqueous phase is formed;
- c) mixing of the oil phase and the aqueous phase until the aqueous phase is emulsified in the oil phase; and
- d) homopolymerization or copolymerization of the monomers used and optionally the further comonomers.

The process according to amended claim 1 differs from the process according to Chaudhry et al., since the reference indicates that an oil-in-water-emulsifier can optionally be added to the medium which is to be thickened, whereas *in the process according to amended claim 1 an oil-in-water-emulsifier is added to a solution or dispersion of the monomers in water during the formation of the aqueous phase and before the polymerization in step b).* In addition, Chaudhry et al. only describes that water-in-oil emulsifiers may be present; whereas, in amended claim 1 a process is claimed, in which very specific water-in-oil emulsifiers are recited as present in the oil phase.

Therefore, the process according to amended claim 1 and claims 2, 3 and 5 depending thereon is not anticipated by Chaudhry et al.

Applicant further submits that the very specific process for the preparation of homo- and copolymers according to amended claim 1 provides homopolymers or copolymers having very specific and advantageous characteristics. This can be shown by Examples 21 to 26 and 27 to 29 on pages 23 to 25 of the description, in which copolymers are prepared according to the process according to amended claim 1. In particular, in the tables it is shown that the products obtained have very low specks, for example 0.01, 0.01, not determinable, 0.02 etc., and gel bodies, for example, 0.07, 0.09, and 0.01.

Chaudhry et al., on the other hand, does not describe that the homo- or copolymers obtained by the process show these low specks and gel bodies. These very advantageous values are achieved and shown by the very specific process according to amended claim 1.

Therefore, the homo- or copolymers according to claim 6 and claims 7 to 10, 17, 18 are also not anticipated by Chaudhry et al.

The Office asserts that the missing features which differentiate the process according to Chaudhry et al. from the process of the present application can be found in Brown et al. and/or Berghofer et al. See pages 6 to 9 of the present Office Action.

However, as mentioned above, the differentiating features between amended claim 1 and the process according to Chaudhry et al. are, *inter alia*, that a very specific combination of sodium peroxydisulfate or hydrogen peroxide as an oxidizing agent and 2-hydroxy-2-sulfamatoacetic acid disodium salt as a reducing agent are the redox initiator pair, that very

specific water-in-oil-emulsifiers are used, and that an oil-in-water-emulsifier is used in order to obtain the aqueous phase in step b) of the process according to amended claim 1.

The Office also asserts that a person having ordinary skill in the art would find the disclosure of the use of the claimed specific initiator pair in Berghofer et al. and/or Brown et al. However, Applicant submits that a person having ordinary skill in the art would not combine these documents with Chaudhry et al., since on the one hand an inverse emulsion polymerization is described, whereas on the other hand Brown et al. and Berghofer et al. describe "nominal" emulsion polymerization reactions.

Moreover, the very specific water-in-oil-emulsifiers according to amended claim 1 are not described or suggested in any of these references. For instance, the general disclosure of Chaudhry et al., indicating that suitable water-in-oil-emulsifiers can be used (see page 3, second paragraph of Chaudhry et al.), does not point in the direction of the use of the very specific emulsifiers according to the process of the claimed invention.

Further, neither Berghofer et al. nor Brown et al. do describes or suggests these emulsifiers. As such, a person having ordinary skill in the art would therefore not glean from these references that the claimed specific emulsifiers should be used in the process according to amended claim 1.

Applicant notes that Chaudhry et al. generally indicates that an oil-in-water emulsifier can optionally be added to the medium which has to be thickened by the addition of the emulsion. However, this disclosure does not point in the direction of the addition of an oil-in-water-emulsifier to the aqueous phase during the preparation of water-soluble or water-swellaible homopolymers or copolymers according to amended claim 1.

In addition, Applicant points out that homo- or copolymers prepared by the process show the very specific advantageous characteristics, as mentioned above. Chaudhry et al., Berghofer et al. and Brown et al., on the other hand, do not point in the direction that specks and/or gel bodies of these products can be lowered if homo- or copolymers are prepared by the process according to amended claim 1. As such, the process according to amended claim 1, the homo- or copolymers according to claim 6, and the claims depending thereon are non-obvious in view of Chaudhry et al., Brown et al. and/or Berghofer et al.

Therefore, in view of the above reasons, withdrawal of the rejections is requested.

In view of the above amendments and remarks, Applicant believes the pending application is in condition for allowance.

Applicant believes no fees are due with this amendment. However, if any additional fees are due, please charge our Deposit Account No. 03-2775, under Order No. 13156-00037-US from which the undersigned is authorized to draw.

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Respectfully submitted,

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